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			ART UNIT	PAPER NUMBER
			1734	

DATE MAILED: 07/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

DETAILED ACTION

Drawings

1. Color photographs and color drawings are not accepted unless a petition filed under 37 CFR 1.84(a)(2) is granted. Any such petition must be accompanied by the appropriate fee set forth in 37 CFR 1.17(h), three sets of color drawings or color photographs, as appropriate, and, unless already present, an amendment to include the following language as the first paragraph of the brief description of the drawings section of the specification:

The patent or application file contains at least one drawing executed in color. Copies of this patent or patent application publication with color drawing(s) will be provided by the Office upon request and payment of the necessary fee.

Color photographs will be accepted if the conditions for accepting color drawings and black and white photographs have been satisfied. See 37 CFR 1.84(b)(2).

2. Applicant's specification amendment filed 5/1/2006 appears to be appropriate. However, the petition and fee for color photographs has not been filed and the above objection is maintained.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

Art Unit: 1734

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 7-26 and 34-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art (AAPA - see paragraphs 0003-0006) in view of Bebbber (US 2002/0016118) and Hanson (US 5,281,454)

The AAPA discloses a method for joining at least two fabric layers, comprising the steps of: providing at least two fabric layers (paragraph 0005); saturating the facing surfaces with an adhesive (such as urethane, see paragraph 00045), and applying heat and pressure to the fabric layers (paragraph 0005).

The AAPA does not disclose providing an adhesive film between the fabric layers. Bebbber discloses providing an adhesive film between the fabric layers (paragraph 0060), and that this layer is bonded to the fabric layers. One in the art would appreciate that such films improve the fabric strength. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized the adhesive film of Bebbber in order to improve fabric strength.

The AAPA does not disclose any thickness measuring step.

However, Hanson discloses that it is known to control the thickness of joints (see column 5). This control is achieved by monitoring the thickness of the joint, and ensures a stress free zone. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have monitored the thickness as in Hanson in order to achieve a stress free zone.

As to claims 8-10, the AAPA discloses providing fabric layers that have a tenacity of 10g/denier or higher (see paragraph 0006).

As to claims 11 and 12, Bebbler as incorporated in claim 7 above discloses that the fabric layers are woven yarns with a degree of crimp (see paragraph 0042). Bebbler also discloses multiple ranges of twist (see paragraph 0034).

As to claim 13, the AAPA discloses providing two fabric layers and a tape fabric layer (such as urethane - see paragraph 0005).

As to claim 14, the AAPA discloses that the fabric layers are airship hull sections, and a tape layer such as urethane.

As to claim 15, the heat and pressure applied to the urethane in the AAPA results in the claimed encapsulation.

As to claim 16, the AAPA discloses using urethane.

As to claim 17, the AAPA discloses coating the with a continuous coat (i.e., an extruded film) between the fabric layers.

As to claims 18-19, official notice is taken that the claimed dimensions are well known and conventional. One in the art would appreciate that the claimed dimensions

can be achieved by routine experimentation, and would do so in order to achieve an effective final product.

As to claim 20, the AAPA discloses that the resins are exposed at 330 degrees Fahrenheit for less than one minute (paragraph 00045). The AAPA discloses crosslinking, i.e., activating the bonding agent (paragraph 0006).

As to claim 21, the AAPA discloses that the thermoplastic resin is bonded to the film. Therefore, the film is brought to the melt point of the adhesive.

As to claim 22, the AAPA discloses heat bonding at 35 psi. Official notice is taken that lowering the temperature and raising the pressure of the bonding operation is well known and conventional. One in the art would appreciate that the claimed quantities can be achieved by routine experimentation, and would do so in order to achieve an effective final product.

As to claim 23, the AAPA discloses heating to 333 degrees Fahrenheit, which is near 350 degrees Fahrenheit.

As to claim 24, the AAPA discloses applying pressure (35 psi) to the fabric layers. This results in the adhesive being squeezed into the fabric layers.

As to claim 25, the AAPA discloses heat bonding at 35 psi. Official notice is taken that optionally lowering the temperature and raising the pressure of the bonding operation is well known and conventional. One in the art would appreciate that the claimed quantities can be achieved by routine experimentation, and would do so in order to achieve an effective final product.

As to claim 26, the AAPA discloses that the heat/pressure time is less than one minute.

Claim 34 is rejected on similar grounds as claim 7 above. The AAPA discloses a method for joining at least two fabric layers, comprising the steps of: providing at least two fabric layers (paragraph 0005); saturating the facing surfaces with an adhesive (such as urethane, see paragraph 00045), and applying heat and pressure to the fabric layers (paragraph 0005).

The AAPA does not disclose providing an adhesive film between the fabric layers. Bebbler discloses providing an adhesive film between the fabric layers (paragraph 0060), and that this layer is bonded to the fabric layers. One in the art would appreciate that such films improve the fabric strength. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized the adhesive film of Bebbler in order to improve fabric strength.

The AAPA does not suggest monitoring the density.

However, Hanson discloses that it is known to control the thickness of joints (see column 5). This control is achieved by monitoring the thickness of the joint, and ensures a stress free zone. The density is related to the thickness. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have monitored the density as in Hanson in order to achieve a stress free zone.

As to claim 35, the AAPA discloses the claimed fiber strength (paragraphs 0005-0006).

Art Unit: 1734

As to claim 36, the AAPA discloses that the method is for bonding hull sections, and therefore would have fabric layers extending in opposite directions.

As to claim 37, the AAPA discloses that the fabric layers are airship hull sections, and a tape layer such as urethane (paragraph 0005-0006).

As to claim 38, the AAPA discloses that the resins are exposed at 330 degrees Fahrenheit for less than one minute (paragraph 00045). The AAPA discloses crosslinking, i.e., activating the bonding agent (paragraph 0006).

As to claim 39, the AAPA discloses heat bonding at 35 psi. Official notice is taken that lowering the temperature and raising the pressure of the bonding operation is well known and conventional. One in the art would appreciate that the claimed quantities can be achieved by routine experimentation, and would do so in order to achieve an effective final product.

As to claim 40, the AAPA discloses that the heat/pressure time is less than one minute.

Allowable Subject Matter

6. Claims 27-30 are allowed.

7. The following is an examiner's statement of reasons for allowance: The prior art of record does not suggest the additional step of monitoring the quality of said joint for voids in the adhesive, and adjusting at least one joint formation parameter whereby said voids in the adhesive between the joined fabric layers are eliminated and avoided, said joint formation parameters comprising a group including adhesive film thickness, fabric

layer weave openness, adhesive heating temperature, pressure applied to the joint during formation, a time that the adhesive is maintained near its melting point, and a time that pressure is applied to the fabric layers.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to George R. Koch III whose telephone number is (571) 272-1230 (TDD only). If the applicant cannot make a direct TDD-to-TDD call, the applicant can communicate by calling the Federal Relay Service at 1-866-377-8642 and giving the operator the above TDD number. The examiner can also be reached by E-mail at george.koch@uspto.gov <<mailto:george.koch@uspto.gov>> in accordance with MPEP 502.03. The examiner can normally be reached on M-F 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Fiorilla can be reached on (571) 272-1187. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



George R. Koch III
Primary Examiner
Art Unit 1734

GRK
7/10/06